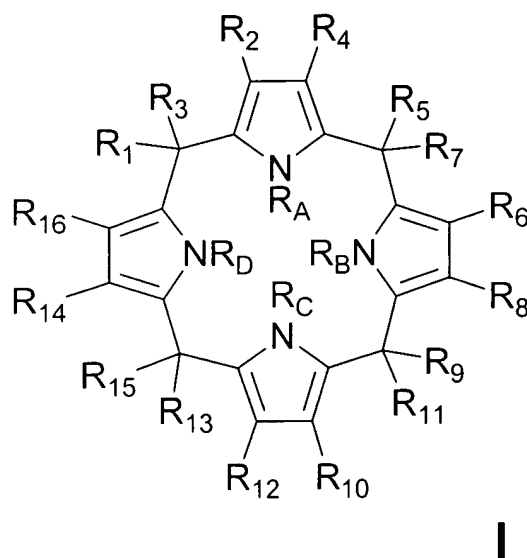


Amendments to and Listing of the Claims:

Please cancel claims 121 and 123, amend claims 120, 122, 124 and 127, and add claims 141-171, so that the claims read as follows:

1-119. (canceled)

120. (currently amended) A pharmaceutical composition comprising a pharmaceutically acceptable carrier and a calix[4]pyrrole macrocycle having structure I:



that has 4 pyrrole rings linked in α positions via sp^3 hybridized *meso*-carbon atoms, wherein neither non-pyrrole substituent of the *meso*-carbon atoms is hydrogen, at least one pyrrole ring comprises a non-hydrogen β -substituent and the macrocycle is noncovalently-complexed to a molecular or anionic species, halide anion;

wherein $R_1 - R_{16}$ are independently substituents as listed in paragraph i) below, and $R_A - R_D$ are independently substituents as listed in paragraph ii) below;

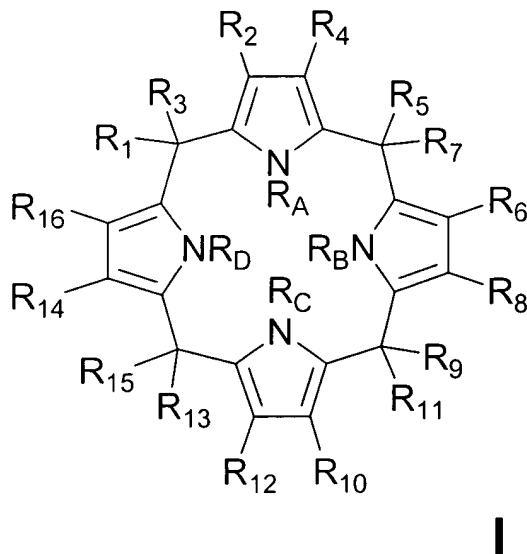
i) hydrogen, halide, hydroxyl, alkyl, alkenyl or alkynyl;

ii) hydrogen or alkyl;

wherein odd-numbered R substituents are other than hydrogen and at least one even-numbered R substituent is other than hydrogen.

121. (canceled)

122. (currently amended) A pharmaceutical composition comprising a pharmaceutically acceptable carrier and a calix[4]pyrrole macrocycle having structure I:



that has 4 pyrrole rings linked in α positions via sp^3 hybridized *meso*-carbon atoms, wherein neither non-pyrrole substituent of the *meso*-carbon atoms is hydrogen, at least one pyrrole ring comprises a non-hydrogen-substituted nitrogen atom and the macrocycle is noncovalently-complexed to a ~~molecular or anionic species~~, halide anion;

wherein $R_1 - R_{16}$ are independently substituents as listed in paragraph i) below, and $R_A - R_D$ are independently substituents as listed in paragraph ii) below;

i) hydrogen, halide, hydroxyl, alkyl, alkenyl, or alkynyl;

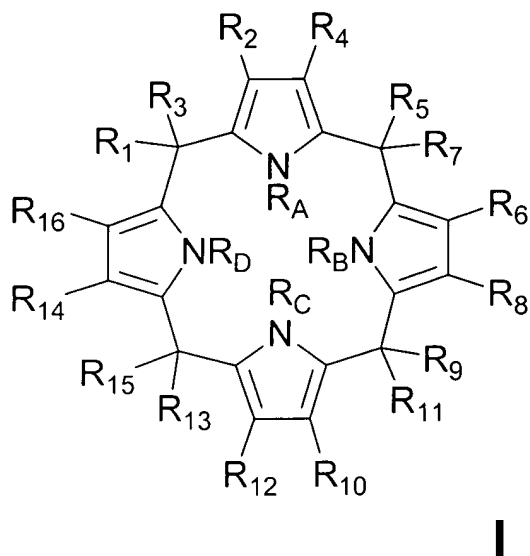
ii) hydrogen or alkyl;

wherein odd-numbered R substituents are other than hydrogen and at least one of $R_A - R_D$ is other than hydrogen.

123. (canceled)

124. (currently amended) A pharmaceutical composition comprising a pharmaceutically acceptable carrier and a calix[4]pyrrole macrocycle that has 4 pyrrole rings linked in α positions via sp^3 hybridized *meso*-carbon atoms, wherein neither non-pyrrole

substituent of the *meso*-carbon atoms is hydrogen and the macrocycle is noncovalently-complexed to a ~~molecular or anionic species~~ halide anion, wherein the calix[4]pyrrole macrocycle has structure I:



wherein R₁ - R₁₆ are independently substituents as listed in paragraph i) below,
and R_A - R_D are independently substituents as listed in paragraph ii)
below;

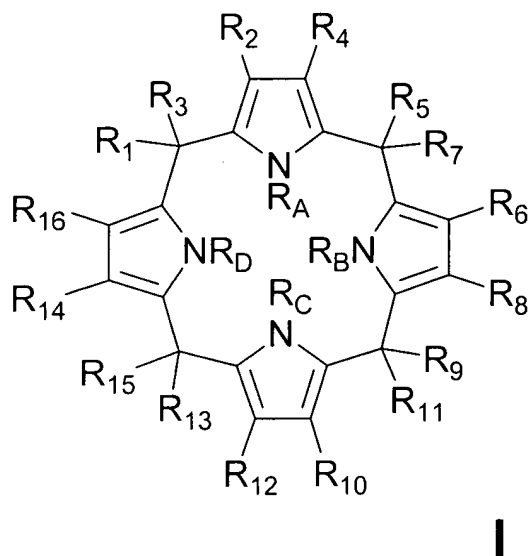
i) hydrogen, halide, hydroxyl, alkyl, alkenyl, or alkynyl;

ii) hydrogen or alkyl;

wherein odd-numbered R substituents are other than hydrogen and at least two substituents of paragraph i) or ii) are coupled to form a bridged structure, and when coupled to form a bridged structure, nonbridged substituents are as defined in paragraph i) or ii).

125-126. (canceled)

127. (currently amended) A pharmaceutical composition comprising a pharmaceutically acceptable carrier and a calix[4]pyrrole macrocycle having structure I:



that has 4 pyrrole rings linked in α positions via sp^3 hybridized *meso*-carbon atoms, wherein neither non-pyrrole substituent of the *meso*-carbon atoms is hydrogen and the macrocycle is noncovalently-complexed to a halide anion;

wherein $R_1 - R_{16}$ are independently substituents as listed in paragraph i) below, and $R_A - R_D$ are independently substituents as listed in paragraph ii) below;

i) hydrogen, halide, hydroxyl, alkyl, alkenyl, or alkynyl;

ii) hydrogen or alkyl;

wherein odd-numbered R substituents are other than hydrogen.

128. (currently amended) The pharmaceutical composition of claim 127 wherein the halide anion is chloride.

129. (currently amended) The pharmaceutical composition of claim 127 wherein the halide anion is fluoride.

130. (currently amended) The pharmaceutical composition of claim 127, wherein the halide anion is selected from the group consisting of chloride and fluoride.

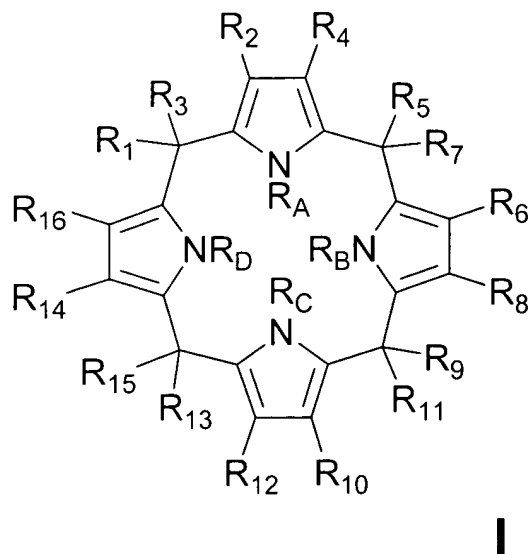
131-140. (canceled)

141. (new) The pharmaceutical composition of claim 120, wherein the halide anion is selected from the group consisting of chloride and fluoride.

142. (new) The pharmaceutical composition of claim 122, wherein the halide anion is selected from the group consisting of chloride and fluoride.

143. (new) The pharmaceutical composition of claim 124, wherein the halide anion is selected from the group consisting of chloride and fluoride.

144. (new) A composition comprising a calix[4]pyrrole macrocycle having structure I:

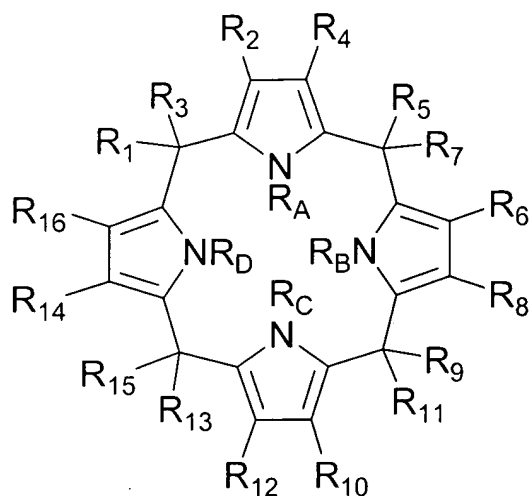


that has 4 pyrrole rings linked in α positions via sp^3 hybridized *meso*-carbon atoms, wherein neither non-pyrrole substituent of the *meso*-carbon atoms is hydrogen, at least one pyrrole ring comprises a non-hydrogen β -substituent and the macrocycle is noncovalently-complexed to a halide anion; wherein $R_1 - R_{16}$ are independently substituents as listed in paragraph i) below, and $R_A - R_D$ are independently substituents as listed in paragraph ii) below;

- i) hydrogen, halide, hydroxyl, alkyl, alkenyl or alkynyl;
- ii) hydrogen or alkyl;

wherein odd-numbered R substituents are other than hydrogen and at least one even-numbered R substituent is other than hydrogen; and wherein the macrocycle is attached to a solid support.

145. (new) A composition comprising a calix[4]pyrrole macrocycle having structure I:



I

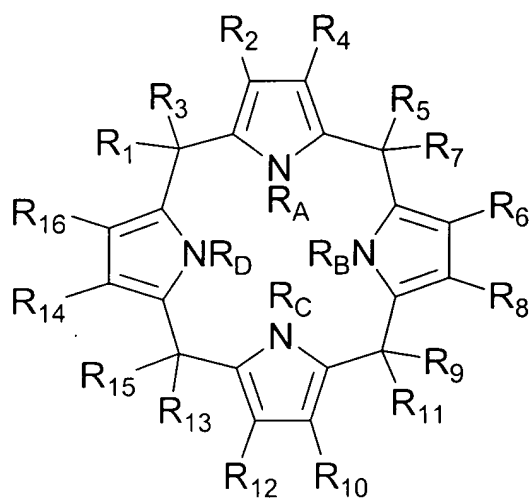
that has 4 pyrrole rings linked in α positions via sp^3 hybridized *meso*-carbon atoms, wherein neither non-pyrrole substituent of the *meso*-carbon atoms is hydrogen, at least one pyrrole ring comprises a non-hydrogen-substituted nitrogen atom and the macrocycle is noncovalently-complexed to a halide anion molecular or anionic species, wherein $R_1 - R_{16}$ are independently substituents as listed in paragraph i) below, and $R_A - R_D$ are independently substituents as listed in paragraph ii) below;

- i) hydrogen, halide, hydroxyl, alkyl, alkenyl, or alkynyl;
- ii) hydrogen or alkyl;

wherein odd-numbered R substituents are other than hydrogen and at least one of $R_A - R_D$ is other than hydrogen; and wherein the macrocycle is attached to a solid support.

146. (new) A composition comprising a calix[4]pyrrole macrocycle that has 4 pyrrole rings linked in α positions via sp^3 hybridized *meso*-carbon atoms, wherein neither non-

pyrrole substituent of the *meso*-carbon atoms is hydrogen and the macrocycle is noncovalently-complexed to a halide anion, wherein the calix[4]pyrrole macrocycle has structure **I**:



I

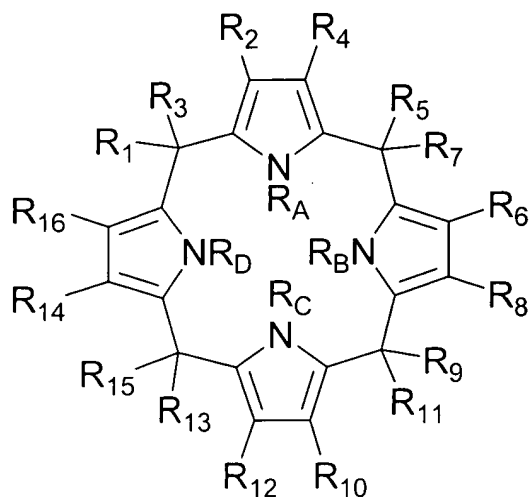
wherein $R_1 - R_{16}$ are independently substituents as listed in paragraph i) below, and $R_A - R_D$ are independently substituents as listed in paragraph ii) below;

i) hydrogen, halide, hydroxyl, alkyl, alkenyl, or alkynyl;

ii) hydrogen or alkyl;

wherein odd-numbered R substituents are other than hydrogen and at least two substituents of paragraph i) or ii) are coupled to form a bridged structure, and when coupled to form a bridged structure, nonbridged substituents are as defined in paragraph i) or ii); and wherein the macrocycle is attached to a solid support.

147. (new) A composition comprising a calix[4]pyrrole macrocycle having structure I:



that has 4 pyrrole rings linked in α positions via sp^3 hybridized *meso*-carbon atoms, wherein neither non-pyrrole substituent of the *meso*-carbon atoms is hydrogen and the macrocycle is noncovalently-complexed to a halide anion;
wherein $R_1 - R_{16}$ are independently substituents as listed in paragraph i) below, and $R_A - R_D$ are independently substituents as listed in paragraph ii) below;

- i) hydrogen, halide, hydroxyl, alkyl, alkenyl, or alkynyl;
- ii) hydrogen or alkyl;

wherein odd-numbered R substituents are other than hydrogen; and wherein the macrocycle is attached to a solid support.

148. (new) The composition of claim 144, wherein the halide anion is selected from the group consisting of chloride and fluoride.

149. (new) The composition of claim 145, wherein the halide anion is selected from the group consisting of chloride and fluoride.

150. (new) The composition of claim 146, wherein the halide anion is selected from the group consisting of chloride and fluoride.

151. (new) The composition of claim 147, wherein the halide anion is selected from the group consisting of chloride and fluoride.

152. (new) The composition of claim 144, wherein the solid support is selected from the group consisting of silica gel, alumina, polyacrylamide, polystyrene, sepharose, sephadex, agarose, clay, zeolite, Merrifield resin, and glass.

153. (new) The composition of claim 152, wherein the solid support is a silica gel.

154. (new) The composition of claim 153, wherein the silica gel is functionalized.

155. (new) The composition of claim 154, wherein the functionalized silica gel is selected from the group consisting of aminopropyl silica gel, carboxylalkylated silica gel, chloroethylated silica gel and chloroalkylated silica gel.

156. (new) The composition of claim 144, wherein the solid support is in a form of a capillary electrophoresis tube, an electrophoresis gel, a chromatography column, and a thin layer chromatographic support.

157. (new) The composition of claim 145, wherein the solid support is selected from the group consisting of silica gel, alumina, polyacrylamide, polystyrene, sepharose, sephadex, agarose, clay, zeolite, Merrifield resin, and glass.

158. (new) The composition of claim 157, wherein the solid support is a silica gel.

159. (new) The composition of claim 158, wherein the silica gel is functionalized.

160. (new) The composition of claim 159, wherein the functionalized silica gel is selected from the group consisting of aminopropyl silica gel, carboxylalkylated silica gel, chloroethylated silica gel and chloroalkylated silica gel.

161. (new) The composition of claim 145, wherein the solid support is in a form of a capillary electrophoresis tube, an electrophoresis gel, a chromatography column, and a thin layer chromatographic support.

162. (new) The composition of claim 146, wherein the solid support is selected from the group consisting of silica gel, alumina, polyacrylamide, polystyrene, sepharose, sephadex, agarose, clay, zeolite, Merrifield resin, and glass.

163. (new) The composition of claim 162, wherein the solid support is a silica gel.

164. (new) The composition of claim 163, wherein the silica gel is functionalized.

165. (new) The composition of claim 164, wherein the functionalized silica gel is selected from the group consisting of aminopropyl silica gel, carboxylalkylated silica gel, chloroethylated silica gel and chloroalkylated silica gel.

166. (new) The composition of claim 146, wherein the solid support is in a form of a capillary electrophoresis tube, an electrophoresis gel, a chromatography column, and a thin layer chromatographic support.

167. (new) The composition of claim 147, wherein the solid support is selected from the group consisting of silica gel, alumina, polyacrylamide, polystyrene, sepharose, sephadex, agarose, clay, zeolite, Merrifield resin, and glass.

168. (new) The composition of claim 167, wherein the solid support is a silica gel.

169. (new) The composition of claim 168, wherein the silica gel is functionalized.

170. (new) The composition of claim 169, wherein the functionalized silica gel is selected from the group consisting of aminopropyl silica gel, carboxylalkylated silica gel, chloroethylated silica gel and chloroalkylated silica gel.

171. (new) The composition of claim 147, wherein the solid support is in a form of a capillary electrophoresis tube, an electrophoresis gel, a chromatography column, and a thin layer chromatographic support.